

What is claimed is:

1 1. A method for reducing CO emissions during part load operation of a turbine
2 engine comprising the steps of:

3 (a) operating a turbine engine under part load, the engine having a
4 compressor section, a combustor section and a turbine section, wherein the
5 combustor section includes a plurality of combustors, each combustor including a
6 pilot nozzle and at least one other nozzle;

7 (b) selecting a first pair of combustors; and

8 (c) substantially restricting the supply of fuel to the at least one other
9 nozzle of each of the first pair of combustors while continuing to supply fuel to the
10 pilot nozzle of each of the first pair of combustors.

1 2. The method of claim 1 wherein the combustor section includes sixteen
2 combustors.

1 3. The method of claim 1 wherein the at least one other nozzle includes a fuel
2 ring and a plurality of nozzle assemblies disposed about the periphery of the pilot
3 nozzle.

1 4. The method of claim 1 wherein the engine has an exhaust temperature limit.

1 5. The method of claim 4 further including the step of:

2 (d) maintaining the temperature of the turbine exhaust substantially at the
3 exhaust temperature limit.

1 6. The method of claim 1 wherein the first pair of combustors are diagonally
2 opposed.

1 7. The method of claim 1 wherein the pair of combustors are adjacent.

1 8. The method of claim 1 wherein the pair of combustors are disposed at
2 substantially 90 degrees with respect to each other.

1 9. The method of claim 1 wherein the compressor section of the engine includes
2 movable inlet guide vanes.

1 10. The method of claim 9 further comprising the step of:
2 (e) moving the inlet guide vanes of the compressor to a closed position.

1 11. The method of claim 1 further comprising the steps of:
2 (f) selecting an additional pair of combustors;
3 (g) substantially restricting the supply of fuel to the at least one other
4 nozzle of each of the additional pair of combustors while continuing to supply fuel to
5 each of the pilot nozzles of the additional pair of combustors; and
6 (h) repeating steps (e)-(f) until there is substantially zero net power out of
7 the engine.

1 12. The method of claim 11 further comprising the step of:
2 (i) resupplying fuel to at least one of the combustors pairs.

1 13. The method of claim 12 wherein the fuel is resupplied to at least one of the
2 combustor pairs in a reverse sequence.

1 14. A method for reducing CO emissions during part load operation of a turbine
2 engine comprising the steps of:
3 (a) operating a turbine engine under part load, the engine having a
4 compressor section, a combustor section and a turbine section, wherein the
5 combustor section includes a plurality of combustors, each combustor including a
6 pilot nozzle and at least one other nozzle;
7 (b) selecting a first combustor from the plurality of combustors; and
8 (c) substantially restricting the supply of fuel to the at least one other
9 nozzle of the first combustor while continuing to supply fuel to the pilot nozzle of the
10 first combustor.

1 15. The method of claim 14 further comprising the steps of:
2 (d) selecting another combustor;

3 (e) substantially restricting the supply of fuel to the at least one other
4 nozzle of the another combustor while continuing to supply fuel to the pilot nozzle of
5 the another combustor; and
6 repeating steps (d)-(e) until there is substantially zero net power out of the
7 engine.

1 16. The method of claim 1 wherein the first combustor and the another combustor
2 are substantially diagonally opposed.

1 17. The method of claim 14 wherein the at least one other nozzle includes a fuel
2 ring and a plurality of nozzle assemblies disposed about the periphery of the pilot
3 nozzle.